

Translation

PATENT COOPERATION TREATY

PCT/FR2003/003158



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BCT030131/DBO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/003158	International filing date (<i>day/month/year</i>) 24 octobre 2003 (24.10.2003)	Priority date (<i>day/month/year</i>) 06 novembre 2002 (06.11.2002)
International Patent Classification (IPC) or national classification and IPC C09J 103/02		
Applicant ROQUETTE FRERES		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 11 mai 2004 (11.05.2004)	Date of completion of this report 03 March 2005 (03.03.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/003158

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 1-42 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____ 1-15 _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR 03/03158

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	2	YES
	Claims	1	NO
Inventive step (IS)	Claims	2	YES
	Claims	3-15	NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims		NO

2. Citations and explanations

1. This report makes reference to the following documents:

D1: US-A-4587332

D2: US-A-5454863

2. PCT Article 33(2):

Document D1 describes an adhesive composition of wheat starch, known under the name "second grade starch", as well as a modified pea starch and the contribution of pea starch in the primary portion for corrugated cardboard.

Example 10 and table 11 (see columns 22 and 23) specifically and explicitly describe pea starch in adhesive compositions.

Document D2 describes adhesive compositions comprising a primary portion and a starch-based secondary portion with an amylose content of at least 40%, preferably 50%. The high amylose content starch can be produced from peas (see column 5, lines 15-17).

According to claim 1, legume starch can be included both in the primary and in the secondary portion, and the

compositions disclosed in D1 and D2 are thus identical to the composition defined in claim 1 of the application. The present application does not comply with PCT Article 33(1) because the subject matter of claim 1 does not meet the requirement of PCT Article 33(2) for novelty.

3. Claim 2 relates to an adhesive composition for corrugated cardboard, the composition being prepared by the "Stein-Hall" process and having both primary and secondary portions made of legume starch. Those starches have more than 90% purity, i.e. a colloidal matter content, fibrous residue content and protein content lower than 1% (dry/dry), as well as an amylose content from 30 to 52%. No prior art document discloses this adhesive composition.

4. PCT Article 33(3) (inventive step):

Document D2 is considered to constitute the prior art closest to the subject matter of claim 2 and discloses (the references in parentheses are to that document) the use of starch having high amylose content in the secondary portion but requiring chemical modification to permit satisfactory green bonding strength and higher machine speeds. That patent discusses in the description the inclusion of pea starch, *inter alia*, in the primary portion, or backing, but it only considers starches having an amylose content higher than 60%.

The problem addressed is that of providing adhesive compositions which ensure good green bonding strength and enable the use of fast machines.

These composition also show good water-resistance.

The solution to this problem, as proposed in claim 2 of

the present application, based on legume starches, is considered inventive (PCT Article 33(3)) for the following reasons:

Nothing in the available prior art would suggest to a person skilled in the art that these technical effects could be obtained by using the adhesive composition defined in claim 2.

5. Insofar as dependent claims 2-15 refer back to claim 1, their subject matter is not considered to involve an inventive step.

The dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty and/or inventive step requirements.